Abstract

A sensor element for a sensor for determining the concentration of a gas component in a gas mixture, in particular the oxygen concentration in the exhaust gas of internal combustion engines, has two electrodes (12, 13) which, together with a solid electrolyte, form a pump cell, one of these electrodes is exposed to the gas mixture via a porous protective layer, and has a reference electrode (17) which is situated on the solid electrolyte, is exposed to a reference gas and, with a reference electrode and the solid electrolyte, forms a concentration cell or a Nernst cell. To make the measured values delivered by the sensor element insensitive to pressure fluctuations in the gas mixture, the electrode surface of the second electrode (13) facing away from the solid electrolyte is coated with a finely porous diffusion layer (19), which is directly exposed to the gas mixture, and the second electrode (13) is used as the reference electrode of the Nernst cell. It is particularly advantageous that the porous protective layer is designed as a coarsely porous diffusion layer (19), and either of both electrodes (12, 13) is used as a reference electrode of the Nernst cell (Figure 1).